

ABSTRACT OF THE DISCLOSURE

A method for enabling dynamic response to I/O failure caused by an out-of-space condition in a file system hosted on a logical volume. An I/O failure response (FR) daemon is implemented to bridge operations between the Logical Volume Manager (LVM) executing in user space and I/O control functions executing in the kernel space. When the file system does not have sufficient space to complete an I/O, the I/O controller signals the I/O FR daemon, which executes the following sequence of operations: (1) alert the LVM that the file system requires additional space; (2) provide a notification to the application level about the resizing; and (3) restart the I/O operation once the resizing operation completes. The LVM receives the alert and initiates an automatic expansion of the file system to include additional storage space from reserve space on the volume group. The I/O is completed once the expansion operation completes.